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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,294	08/24/2001	Yuan-pang Samuel Ding	1417Y P 524 (NPVC-5797)	2541
7590 07/20/2004 MARK J. BUONAIUTO, ESQ. BAXTER INTERNATIONAL INC. LAW DEPARTMENT ONE BAXTER PARKWAY, DF2-2E DEERFIELD, IL 60015			EXAMINER NOLAN, SANDRA M	
			ART UNIT 1772	PAPER NUMBER
DATE MAILED: 07/20/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/939,294

Applicant(s)

DING ET AL.

Examiner

Sandra M. Nolan

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 7-95 is/are pending in the application.
- 4a) Of the above claim(s) 17-91 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-16 and 92-95 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claims*

1. After entry of the amendments in the 26 April 2004 response ("the last response"), claims 1-3 and 7-95 are pending.
2. Claims 4-6 have been cancelled and claims 17-91 have been withdrawn.

### ***Examiner's Summary of the Base Claims***

3. The elected base claims of this case can be summarized as follows:

Claim 1 covers a polymer blend comprising:

- 1 to 99 wt% of a first syndiotactic 1,2-polybutadiene having low crystallinity and exhibiting a first melting point (MP),
- 1 to 99 wt% of a second syndiotactic 1,2-polybutadiene having a higher MP than the first 1,2-polybutadiene.

Claim 9 covers an irradiated polymer blend with a gel content of  $\geq 20\%$

comprising:

- 1 to 99 wt% of a first 1,2-polybutadiene exhibiting a first MP,
- 1 to 99 wt% of a second 1,2-polybutadiene with a higher MP than the first MP.

Claim 92 covers a blend of crosslinked polybutadienes comprising:

- 1 to 99 wt% of a first 1,2-polybutadiene exhibiting a first MP,
- 1 to 99 wt% of a second 1,2-polybutadiene having a higher MP than that of the first 1,2-polybutadiene.

***Rejections Withdrawn***

4. The 35 USC 112 rejection of claims 9-16 and 92-95 for indefiniteness, as set out in section 10 of the 21 January 2004 office action ("the last office action"), is withdrawn in view of the amendments to the claims in the last response.
5. The 35 USC 103 rejection of claims 1-3, 6-7, 9-15 and 92-95 as unpatentable over Ve Speer et al (US 5,310,497) in view of Ryan et al (5,741,452) and the text at page 3, lines 19-25 of the specification and at page 7, line 29 through page 8, line 10 of the specification, as recited in section 13 of the last office action, is withdrawn in view of applicants' arguments concerning that rejection in the last response.
6. The 35 USC 103 rejection of claims 8 and 16 as unpatentable over Ve Speer, Ryan et al and applicants' discussions in view of JP 11228957A (abstract), as expressed in section 14 of the last office action, is withdrawn in view of applicants' arguments concerning that rejection in the last response.

***New Rejections***

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 9, 12 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by the English abstract of JP 53075278A ("the '278 abstract").

The '278 abstract teaches blends of high and low melting resins that are made into tubes and irradiated (title). The blends contain 10:90 to 45:55 mixtures of polyolefin resins having differences in melting points of 10 to 80 degrees C (first paragraph, lines 1 and 2). The tube is irradiated with ionizing radiation to a gel ratio of 10 to 80% (second paragraph, line 1). Polyolefins used include syndiotactic-1,2-polybutadienes (second paragraph, line 2).

The tubes of the '278 abstract are deemed to contain irradiated blends.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-3, 7 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '278 abstract.

The '278 abstract is discussed above. It fails to teach low crystallinity/low melting point polybutadienes.

It is well known in the polymer arts that low melting point resins and those with low crystallinities are processable at lower temperatures than similar resins having higher melting points and higher crystallinities.

In the absence of convincing objective evidence to the contrary, it would have been obvious to one having ordinary skill in the art at the time that the invention to employ low crystallinity and low melting point butadiene polymers in the blends of the '278 abstract in order to facilitate making its tubes at lower temperatures.

It is deemed desirable to make tubes at lower temperatures because less energy is needed to produce the tubes.

12. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the '278 abstract as applied to claims 1-3, 7 and 9-15 above, and further in view of applicants' statement at page 3, lines 19-27 of the specification.

The '278 abstract, discussed above, fails to teach hindered amine stabilizers.

In the specification at page 3, lines 19-27, applicants state that hindered amines are conventionally used as radiation resistance additives for butadiene polymers.

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to add the hindered amines discussed at page 3, lines 19-27 of the specification to the blends suggested by '278 abstract's blends in order to stabilize polybutadienes therein.

13. Claims 92-95 are rejected under 35 U.S.C. 103(a) as unpatentable over the '278 abstract in view of the English abstract of DE 1234019B ("the German abstract").

The '278 abstract, discussed above, fails to teach crosslinked polydiene resins.

The German abstract teaches that ionizing radiation (first paragraph, line 4) crosslinks butadiene resins (first paragraph, line 2), thereby improving their solvent resistance (second paragraph, line 3).

It would have been obvious to one having ordinary skill in the art at the time that the invention was made to employ the radiation of the German abstract to crosslink the polybutadienes in the '278 abstract's tubes in order to increase their solvent resistant.

The production of solvent resistant tubing is desirable because the tubing will be more stable in the presence of various reagents that could destabilize it.

#### ***Response to Arguments***

14. Applicant's arguments with respect to claims 1-3, 7-16 and 92-95 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

Any inquiry concerning this communication should be directed to Sandra M. Nolan, whose telephone number is 571/272-1495. She can normally be reached on Monday through Thursday, from 6:30 am to 4:00 pm, Eastern Time. If attempts to her are unsuccessful, her supervisor, Harold Pyon, can be reached at 571/272-1498.

The fax number for patent application documents is 703/872-9306.



S. M. Nolan  
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